

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A method of forming a microelectronic structure comprising:

providing a substrate comprising source/drain and gate regions,

wherein the gate region comprises a metal layer disposed on a gate dielectric layer, and

laser annealing the substrate.

2. (Original) The method of claim 1 wherein providing a substrate comprising source/drain and gate regions, wherein the gate region comprises a metal layer disposed on a gate dielectric layer comprises providing a substrate comprising source/drain and gate regions, wherein the gate region comprises a metal layer comprising a work function from about 3.9 electron volts to about 5.2 electron volts that is disposed on the gate dielectric layer.

3. (Original) The method of claim 1 wherein providing a substrate comprising

source/drain and gate regions, wherein the gate region comprises a metal layer disposed on a gate dielectric layer further comprises wherein the metal layer does not substantially diffuse into the gate dielectric layer.

4. (Original) The method of claim 1 wherein providing a substrate comprising source/drain and gate regions, wherein the gate region comprises a metal layer disposed on a gate dielectric layer further comprises wherein the metal layer does not substantially diffuse into a polysilicon layer disposed on the metal layer.

5. (Original) The method of claim 1 wherein laser annealing the substrate comprises exposing the substrate to a laser beam for a time sufficient to activate an implanted species.

6. (Original) The method of claim 1 wherein laser annealing the substrate comprises exposing the substrate to a laser beam pulsed at about 20 nanosecond intervals or less.

7. (Original) The method of claim 1 wherein laser annealing the substrate comprises activating an implanted species in the source/drain regions by laser annealing.

8. (Original) The method of claim 7 wherein activating an implanted species in the source/drain regions by laser annealing comprises activating an implanted species in the source/drain regions, wherein the ratio of the depth of the source/drain regions to the length of the source/drain regions is less than about 1:2 by laser annealing.

9. (Original) The method of claim 1 wherein providing a substrate comprising source/drain and gate regions, wherein the gate region comprises a metal layer disposed on a gate dielectric layer comprises providing a substrate comprising source/drain and gate regions, wherein the gate region comprises a metal layer disposed on a high k dielectric layer.

10. (Original) The method of claim 1 wherein providing a substrate comprising source/drain and gate regions, wherein the gate region comprises a metal layer comprises providing a substrate comprising source/drain and gate regions, wherein the gate region comprises a metal layer selected from the group consisting of tungsten, platinum, ruthenium, palladium, molybdenum and niobium, and their alloys, metal carbides, metal nitrides, metal carbides and conductive metal oxides.

11. (Original) A method of forming a microelectronic structure comprising;

providing a substrate comprising doped source/drain and gate regions, wherein the gate region comprises a metal layer disposed on a high k dielectric layer, and wherein the metal layer comprises a work function approximately equal to a work function of n doped polysilicon; and
forming shallow source/drain regions by laser annealing the substrate.

12. (Original) The method of claim 11 wherein forming shallow source/drain regions comprises forming source/drain regions wherein the ratio of the depth of the source/drain regions to the length of the source/drain regions is less than about 1:2.

13. (Original) The method of claim 11 wherein providing a substrate comprising doped source/drain and gate regions, wherein the gate region comprises a metal layer disposed on a high k dielectric layer, and wherein the metal layer comprises a work function approximately equal to a work function of n doped polysilicon comprises providing a substrate comprising doped source/drain and gate regions, wherein the gate region comprises a metal layer disposed on a high k dielectric layer, and wherein the metal layer comprises a work function from about 3.9 to about 4.2 electron volts.

14. (Original) The method of claim 11 wherein providing a substrate comprising doped source/drain and gate regions, wherein the gate region comprises a metal layer disposed on a high k dielectric layer, and wherein the metal layer comprises a work function approximately equal to a work function of n doped polysilicon comprises providing a substrate comprising doped source/drain and gate regions, wherein the gate region comprises a metal layer disposed on a high k dielectric layer, and wherein the metal layer comprises a work function approximately equal to a work function of p doped polysilicon.

15. (Original) The method of claim 11 wherein providing a substrate comprising doped source/drain and gate regions, wherein the gate region comprises a metal layer disposed on a high k dielectric layer, and wherein the metal layer comprises a work function approximately equal to a work function of p doped polysilicon comprises providing a substrate comprising doped source/drain and gate regions, wherein the gate region comprises a metal layer disposed on a high k dielectric layer, and wherein the metal layer comprises a work function comprises a work function from about 4.8 to about 5.1 electron volts.

16. (Original) The method of claim 11 wherein providing a substrate comprising doped source/drain and gate regions, wherein the gate region comprises a metal layer disposed on a high k dielectric layer comprises providing

a substrate comprising doped source/drain and gate regions, wherein the gate region comprises a metal layer disposed on a high k dielectric layer selected from the group consisting of hafnium oxide, zirconium oxide, titanium oxide, and aluminum oxide and /or combinations thereof.

17-24. (Canceled)